THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 19

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

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Ex parte HANS W. STEINMETZ,
ALFRED MESSMER and
DIRK A. PETRY

_____

Appeal No. 1998-0402
Application No. 08/490,046

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ON BRIEF

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Before ABRAMS, FRANKFORT and McQUADE, ***Administrative Patent Judges.***

ABRAMS, ***Administrative Patent Judge.***

DECISION ON APPEAL

This is an appeal from the decision of the examiner finally rejecting claims 1-5, which constitute all of the claims of record in the application.

The appellants' invention is directed to a sleeve of thermoplastic material which is provided with a heating element for producing a weld connection, and is equipped with a means to indicate when the weld joint has been made. The claims before us on appeal have been reproduced in an appendix to the Brief.

THE REFERENCES

The references relied upon by the examiner to support the final rejection are:

Sturm	4,117,311	Sep. 26, 1978
Kunnecke *et al.* (Kunnecke)	4,703,150	Oct. 27, 1987

THE REJECTION

Claims 1-5 stand rejected under 35 U.S.C. § 103 as being unpatentable over Sturm in view of Kunnecke.

Rather than attempt to reiterate the examiner's full commentary with regard to the above-noted rejection and the conflicting viewpoints advanced by the examiner and the appellants regarding it, we make reference to the Examiner's Answer (Paper No. 13) and to the Appellants' Briefs (Papers No. 12 and 14).

OPINION

The test for obviousness is what the combined teachings of the prior art would have suggested to one of ordinary skill in the art. ***See***, ***for example***, ***In re Keller***, 642 F.2d 413, 425,
208 USPQ 871, 881 (CCPA 1981). In establishing a *prima facie* case of obviousness, it is incumbent upon the examiner to provide a reason why one of ordinary skill in the art would have been led to modify a prior art reference or to combine reference teachings to arrive at the claimed invention. ***See Ex parte Clapp***, 227 USPQ 972, 973 (Bd. Pat. App. & Int. 1985). To this end, the requisite motivation must stem from some teaching, suggestion or inference in the prior art as a whole or from the knowledge generally available to one of ordinary skill in the art and not from the appellants' disclosure. ***See***, ***for example***, ***Uniroyal, Inc. v. Rudkin-Wiley Corp.***, 837 F.2d 1044, 1051, 5 USPQ2d 1434,
1438 (Fed. Cir.), *cert. denied*, 488 U.S. 825 (1988).

The appellants' invention is in the field of welding together the ends of pipes by means of a thermoplastic sleeve

that is provided with a conductive coil so that the material adjacent to the pipe can be heated. It is necessary to determine, however, that a weld actually has been made and, as acknowledged by the appellants, it was known at the time of their

invention to do so by providing the sleeve with an indicator stem that moved outward in response to the pressure developed in the sleeve material by the heat of welding. The stem was radially oriented and positioned in a recess in the sleeve so that its free end was flush with the outer surface of the sleeve
prior to welding, but was pushed outwardly by the sleeve material as it expanded due to the heat of welding to a position where it extended beyond the periphery of the sleeve. However, according to the appellants, these indicating systems could fail if thermoplastic material melted by the heat of welding expanded outwardly around the stem through the recess to an extent sufficient to escape to the peripheral surface of the sleeve, which could weaken the connection and cause overheating and burning (specification, page 2). The

appellants' invention overcomes this deficiency by locating the indicating stem in a recess that has stepped sides which are engaged by the stem as it is forced outwardly so that the stem seals the top of the recess and prevents material from escaping therefrom.

Sturm, which was applied by the examiner as the primary reference, is an example of the prior art system over which the appellants believe their invention to be an improvement. Sturm discloses a thermoplastic sleeve (1) having a wire winding

(3) that can be energized to heat the surrounding sleeve material. A radially oriented indicator stem (20) is integrally formed in the sleeve, positioned in a recess (21). Upon the application of heat, the free end of the stem is pushed outwardly to the position designated as 20'. What Sturm fails to disclose or teach is, in the language of claim 1, that the stem is

> located within a stepped recess, said stepped recess prevents molten thermoplastic material which comes under increased pressure during welding from flowing to a peripheral surface on the sleeve body due to the stem coming to rest against a corresponding

surface of the stepped recess . . . .

For this teaching, the examiner looks to Kunnecke, taking the position that an indicator means located in a stepped recess is taught by Kunnecke, and it would have been obvious to add such a feature to the Sturm structure "for the purpose of preventing an overflow of thermoplastic material and limiting the extension of the indicator beyond the sleeve" (Answer, page 4).

The thermoplastic pipe connector sleeve disclosed by Kunnecke is equipped with a recess (14) that has a narrowed opening (19) at its open end. However, the Kunnecke indicator is much different in structure and operation from that of Sturm. It comprises a piston (17) located inwardly in the recess and a stem (18) mounted on the piston. The piston is larger than the opening at the top of the recess, and the stem is small enough to

be movable through it; thus, while the stem advances radially outward when the piston moves under the pressure of the heated thermoplastic material, the piston is precluded from exiting the recess. The piston and stem are not integral with the

sleeve, but are separate components, and the purpose of the above-described arrangement is to limit the stem to "a precisely defined travel distance . . . [which] leads to a clearly defined good/bad indication" in response to the displacement of a specific quantity of material during welding, that is, the amount of material that is required to fill the recess (column 4, lines 1-7). We also note that Kunnecke is concerned about inappropriate movement of the non-integral piston and stem prior to welding, and means to hold it in the inward position until welding takes place is provided (see column 4, lines 16-24).

It is axiomatic that the mere fact that the prior art structure could be modified does not make such a modification obvious unless the prior art suggests the desirability of doing so. ***See, for example***, ***In re Gordon***, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984). In the present case, we fail to perceive any teaching, suggestion or incentive which would have led one of ordinary skill in the art to modify Sturm in the manner proposed by the examiner. In this regard, we first focus

on the fact that the indicator stem in Sturm is limited in its outward movement by virtue of the fact that it is integral with the sleeve. Thus, no motivation would have existed for one of ordinary skill in the art to provide stepped sides in the recess for the purpose of limiting its outward movement, which is one of the explicit reasons behind the presence of this feature in Kunnecke. The other reason this is provided in Kunnecke is to define a reservoir to receive a specific amount of melted thermoplastic material so that the stem is driven outward a precisely defined distance, a requirement that is not present in the Sturm arrangement. It also is notable that Kunnecke has voiced no concern for the problem of molten material escaping from the recess, even though the disclosed construction inherently might prevent this from occurring, and thus suggestion to modify Sturm on the basis of solving this problem is lacking.

From our perspective, the only suggestion for combining the teachings of Sturm and Kunnecke in the manner set forth by the examiner in the rejection is found in the hindsight accorded one who first viewed the appellants' disclosure. This, of course, is

not a proper basis for a rejection under 35 U.S.C. § 103. ***See In re Fritch***, 972 F.2d 1260, 1266, 23 USPQ2d 1780, 1784 (Fed. Cir. 1992). The conclusion follows that the combined teachings of

Sturm and Kunnecke fail to establish a *prima facie* case of obviousness with regard to the subject matter recited in claim 1. This being the case, we will not sustain the rejection of claim 1 or, it follows, of claims 2-5, which are dependent therefrom.

The decision of the examiner is reversed.

REVERSED

NEAL E. ABRAMS Administrative Patent Judge	)	
CHARLES E. FRANKFORT Administrative Patent Judge	)	BOARD OF PATENT APPEALS AND INTERFERENCES
JOHN P. McQUADE Administrative Patent Judge	)	

NEA:hh

Bachman & Lapointe
900 Chapel Street, Suite 1201
New Haven, CT 06510-2802